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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,249	08/21/2003	Atsuo Takahashi	9281-4629	7554
7590 Brinks Hofer Gilson & Lione P.O. Box 10395 Chicago, IL 60610		11/13/2007	EXAMINER KRAUSE, JUSTIN MITCHELL	
			ART UNIT 3682	PAPER NUMBER
			MAIL DATE 11/13/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/645,249	<b>Applicant(s)</b> TAKAHASHI ET AL	
	<b>Examiner</b> Justin Krause	<b>Art Unit</b> 3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-9, 14-37 is/are pending in the application.
- 4a) Of the above claim(s) 1-5, 14-20 and 25-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-9, 21-24 and 31-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 August 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 35 and 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear what the meaning of the phrase "parallel to the rotating direction" means in claim 35. The rotating direction in which the manipulating knob rotates would change as the knob rotates.

There is no antecedent basis in claim 36 for "the outside" it is unclear what the meaning of this phrase is.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 6-9, 23, 24, 31, and 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agetsuma (US 2002/0066658) in view of Miyako (US 2002/0033321).

Agetsuma discloses a steering switch for a vehicle comprising:

-a support member (4) which is mounted on a steering wheel (1), the steering wheel having an annular ring (1a) and spokes (1c) formed inside the ring;

-a manipulating knob (6) which is rotatably supported on the support member such that the manipulating knob is rotatable in front and rear directions of the steering wheel, the manipulating knob projecting inside a space surrounded by the ring and the spokes;

-a rotary support body (5) which is mounted on the support member and rotatably supports the manipulating knob; biasing means (15) which bias the manipulating knob such that the manipulating knob returns to a neutral position; and

-signal changeover means which are capable of changing over two kinds of electric signals in response to a rotational direction of the manipulating knob from the neutral position (paragraph 0010), wherein

-the manipulating knob, the rotary support body, the biasing means and the signal changeover means are integrally put together to form an assembled body (figure 4),

Agetsuma does not disclose the support member is formed by joining a front-side casing member which is arranged at a front side of the spoke and a back-side casing member which is arranged at a back side of the spoke, and wherein a housing which houses the assembled body therein is provided to one of the front-side casing member and the back-side casing member.

Miyako teaches a support member formed by joining a front-side casing member (4) which is arranged at a front side of the spoke and a back-side casing member (25) which is arranged at a back side of the spoke (11), and wherein a housing (12) which

houses the assembled body therein is provided to one of the front-side casing member and the back-side casing member for the purpose of providing a structure to mount a switch on a steering wheel which does not need a bracket or screw and obtains a steady, stable mounting state of the switch.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the steering switch of Agetsuma and mount it to the steering wheel in the manner taught by Miyako, the motivation would have been to provide a structure to mount a switch on a steering wheel which does not need a bracket or screw and obtains a steady, stable mounting state of the switch.

The support member has a space (within the annular ring) into which at least one spoke is inserted when the front side casing member and the back side casing member are mounted to the at least one spoke.

The combination created by Agetsuma and Miyako contains two openings, a first opening into which the spoke is inserted when the front and back side casing members are mounted to the spoke (as shown in Miyako), and a second opening formed on an upper portion through which the manipulating knob is projected from the support member (as shown in Agetsuma).

The manipulating knob includes a manipulating knob body having a bend, an operation portion at a first end side (see fig 5, the side where number "6" is found is designated the first end side) of the manipulating knob, and the biasing means at a second end side of the manipulating knob, the first end and second end are defined

with reference to the bend, the bend of the manipulating body is rotatably supported by the rotary support body (on pin 5).

Regarding claim 7, the housing has a positioning portion (21) on an inner wall of the housing, the assembled body being insertable into the housing so as to position the assembled body with respect to the housing is mounted.

Regarding claim 8, the housing is formed on the back side casing member.

Regarding claim 9, the housing has an insertion opening for inserting the assembled body into the housing at a position which faces the front side casing member. The housing is mounted on the back side of the spoke, therefore the open side (insertion opening) faces the front side casing member.

Regarding claim 23, the front side and back side casing members are connected by snap fitting (see Miyako fig 3).

Regarding claim 24, the front side casing member and the back side casing member are directly connected to the at least one spoke (See Miyako fig 3).

Regarding claim 34, the rotary support body of Agetsuma includes side plates (9 and 4) at opposite sides of the manipulating knob body, the bend is provided with a hole (10a, 16a), a rod (5) extends through the hole of the bend such that each end of the rod is correspondingly fixed to a side plate of the rotary support body.

Regarding claim 35, as best understood, the signal changeover means of Agetsuma includes a printed circuit board (7) disposed facing a side portion of the bend of the manipulating knob body and the printed circuit board is arranged in parallel to

the rotating direction of the manipulating knob, and a slide contact (18) attached to the manipulating knob such that the slide contact is slidable on the printed circuit board (paragraph 0030).

Regarding claim 36, the signal changeover means of Miyako includes a first terminal for leading two kinds of signals to the outside (light from LEDs and inputs from the buttons to the devices the buttons control), the front side casing member includes a printed circuit board (6) with switches (5), the circuit board has a second terminal which is connected to the first terminal when the front side casing member and back side casing member are connected. The claim does not prohibit an interpretation that the second terminal may function even without the back side casing member connected, so long that the second terminal does function with the back side casing member connected. The second terminal may provide or output anything, such as input power to the circuit board, or a ground.

Regarding claim 37, the biasing means includes a spring (15), a driving rod (13) and a cam (surface 4b).

Claims 21, 22, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agetsuma and Miyako as applied to claim 6 above, and further in view of Castleman et al (US Patent 6,131,946).

Agetsuma and Miyako do not disclose the spoke comprising an upper and lower spoke.

Castleman teaches a spoke with an upper spoke and a lower spoke (14, see fig 5) for the purpose of supporting the steering wheel.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Agetsuma to include a spoke comprising an upper spoke and lower spoke for the desired purpose of supporting the steering wheel as taught by Castleman. The concept of dividing a spoke into an upper and lower spoke is known within the art and the modification to divide a single spoke is considered to be within the level of ordinary skill within the art, such a modification provide the predictable result of supporting the steering wheel and providing an alternate means of attaching peripheral hardware to the steering wheel spokes.

Regarding claim 22, the support member includes a reinforcing portion (Miyako 22) which divides the space into a space corresponding to the upper spoke and a space corresponding to the lower spoke and bridges between the front side casing member and the back side casing member

### ***Response to Arguments***

Applicant's arguments filed August 29, 2007 have been fully considered but they are not persuasive. Applicant's arguments with regard to claim 6 have been addressed in the rejection above.

Regarding applicant's argument that Agetsuma teaches away from the limitation in claim 31 that the manipulating knob "is rotatable in a direction perpendicular to the spoke", the examiner disagrees, finding that there are 2 directions perpendicular to the



spoke, a vertical direction and a horizontal direction. The manipulating knob of Agetsuma rotates about the vertical axis perpendicular to the spoke.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Krause whose telephone number is 571-272-3012. The examiner can normally be reached on Monday - Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:  
10/645,249  
Art Unit: 3682

Page 9

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMK  
JMK 11/18/07

  
RICHARD RIDLEY  
SUPERVISORY PATENT EXAMINER